(FILE 'CAPLUS' ENTERED AT 08:18:50 ON 30 APR 2004)

	DEL HIS	
L1	231847	S SINGLE CRYSTAL
L2	45152	S LACTOSE
L3	23	S L1 AND L2
L4	134814	S INCLUSION
L5	379052	S INCORPORAT?
L6	0	S L3 AND (L4 OR L5)
L7	130639	S SUCROSE
L8	8602	S TREHALOSE
L9	24595	S MALTOSE
L10	121	S L1 AND (L7 OR L8 OR L9)
L11	115	S L10 NOT L3
L12	5	S L11 AND (L4 OR L5)
L13	110	S L11 NOT L12

L3 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:796482 CAPLUS
DOCUMENT NUMBER: 139:297020
TITLE: Solid composition containing **single crystal** form
INVENTOR(S): Iwai, Michio; Nakamura, Kazuhiro; Dohi, Masahiko; Mochizuki, Hiroko; Mochizuki, Seiji
PATENT ASSIGNEE(S): Teijin Limited, Japan
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003082279	A1	20031009	WO 2003-JP3962	20030328

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: JP 2002-90889 A 20020328
AB Disclosed are a solid composition comprising 2-(3-cyano-4-isobutyloxyphenyl)-4-methyl-5-thiazolecarboxylic acid (I) in a **single crystal** form, an excipient, and a disintegrator, and a process for producing the solid composition A tablet was prepared from I with A-type crystal 82.5, **lactose** 328.1, partial α-starch (PC-10) 77.03, hydroxypropyl cellulose (HPC-SL) 12.31, croscarmellose sodium (AcDiSol) 24.6, and magnesium stearate 6.15 g. The tablet showed improved storage stability in the crystal form.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:305051 CAPLUS
DOCUMENT NUMBER: 139:91848
TITLE: Electrocatalytic oxidation of sugars on silver-UPD **single crystal** gold electrodes in alkaline solutions
AUTHOR(S): Aoun, Sami Ben; Bang, Gyeong Sook; Koga, Tesshu; Nonaka, Yasuhiro; Sotomura, Tadashi; Taniguchi, Isao
CORPORATE SOURCE: Faculty of Engineering, Department of Applied Chemistry and Biochemistry, Kumamoto University, Kurokami, Kumamoto, 860-8555, Japan
SOURCE: Electrochemistry Communications (2003), 5(4), 317-320
CODEN: ECCMF9; ISSN: 1388-2481
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A highly catalytic system for sugar oxidation in alkaline media is presented, for the first time, in which glucose oxidation takes place at ca. -0.44 V (vs. Ag|AgCl). Modification of Au(111) **single crystal** surface by under potential deposition (UPD) was carried out for a variety of metals and catalytic effect for sugar oxidation has been studied in 0.1 M NaOH. UPD of Ag ad-atoms on Au electrodes were of the best catalytic activity compared to other metals (Cu, Co, Ru, Cd, Ir, and Pt, etc.). For aldose type monosaccharide studied (glucose, mannose and xylose) as well as for aldose-containing disaccharides (maltose and **lactose**), one significant oxidation peak was obtained, however, no significant oxidation current was observed for disaccharides like sucrose. Gluconolactone and mannolactone gave no oxidation current at neg. potentials at which glucose was oxidized, indicating no more than two-electron oxidation took place. With Ag ad-atoms coverage of ca. 0.3 monolayer leads to a pos. catalytic effect expressed through a neg. shift of ca. 0.14 V (glucose case) on the oxidation potential and a slight increase in peak current. At the Au(100) surface similar results to those at an Au(111) electrode were also observed
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:112467 CAPLUS
DOCUMENT NUMBER: 140:31240
TITLE: Dissolution kinetics of **single crystals** of α- **lactose** monohydrate. [Erratum to document cited in CA138:358291]
AUTHOR(S): Raghavan, S. L.; Ristic, R. I.; Sheen, D. B.; Sherwood, J. N.
CORPORATE SOURCE: Department of Pure and Applied Chemistry, University of Strathclyde, Glasgow, G1 1XL, UK
SOURCE: Journal of Pharmaceutical Sciences (2003), 92(2), 439
CODEN: JPMSAE; ISSN: 0022-3549
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The corrected version of Figure 1(b) presents the proper positioning of the hydroxy groups in the formula of α- **lactose** and a better formula style.

L3 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:734959 CAPLUS
DOCUMENT NUMBER: 138:358291
TITLE: Dissolution kinetics of **single crystals** of α- **lactose** monohydrate
AUTHOR(S): Raghavan, S. L.; Ristic, R. I.; Sheen, D. B.; Sherwood, J. N.
CORPORATE SOURCE: Department of Pure and Applied Chemistry, University of Strathclyde, Glasgow, G1 1XL, UK
SOURCE: Journal of Pharmaceutical Sciences (2002), 91(10), 2166-2174
CODEN: JPMSAE; ISSN: 0022-3549
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The dissoln. kinetics of α- **lactose** monohydrate (αLM) **single crystals** were studied by a flow-cell method at different undersatns. Linear dissoln. profiles were obtained as a function of time for all the faces except the (0.hivin.10) face. The dissoln. rates, obtained from these profiles, were anisotropic and varied considerably with undersatn. At low undersaturations (0-2%), the order of dissoln. rate was (1.hivin.10) > (100) > (0.hivin.11) = (110) > (010). This order changed with increasing undersatn. (>5%) to (0.hivin.11) >> (100) > (1.hivin.10) > (110) > (010). In αLM crystals in which lattice strain was induced by synchrotron x-irradiation, the rates of dissoln. of all faces increased with increasing strain. The increase was less significant for the (0.hivin.11) faces than for the remainder. Under this constraint, the (010) face became the fastest dissolving one and the {0.hivin.11}face became the slowest one. The results of all expts. are explained on the basis that although dislocations may act as initiating dissoln. centers at very low undersaturations, these sources rapidly give way to two-dimensional nucleation of randomly distributed dissoln. sites as the undersatn. is increased. Under these conditions, which better reflect the normal dissoln. processes of materials, bulk lattice strain plays the most significant role in defining the dissoln. rate. The results show a potential route to the controlled engineering of the dissoln. behavior of crystalline materials.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:493308 CAPLUS
DOCUMENT NUMBER: 137:295166
TITLE: Dehydration Mechanism and Crystallization Behavior of **Lactose**
AUTHOR(S): Garnier, S.; Petit, S.; Coquerel, G.
CORPORATE SOURCE: IRCOF, UPRES EA 2659, Unite de Croissance Cristalline et de Modelisation Moleculaire (UC2M2) Sciences et Methodes Separatives (SMS), Universite de Rouen, Mont Saint-Aignan, F-76821, Fr.
SOURCE: Journal of Thermal Analysis and Calorimetry (2002), 68(2), 489-502
CODEN: JTACF7; ISSN: 1418-2874
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The dehydration mechanism of α- **lactose** monohydrate was

investigated by several techniques and interpreted on the basis of structural data. Whatever the dehydration conditions (heating or use of hygroscopic organic solvents), the departure of water mols. occurs cooperatively in channels parallel to the c axis of the initial structure. Subsequently, the reorganization leads to the closest packing (hygroscopic metastable form, LαH) under heating or to the stable anhydrous form (LαS), probably via a nucleation and growth process in ethanol. The use of acetone as dehydrating solvent on **single crystals** of α- **lactose** monohydrate led to the unexpected formation of **single crystals** of the anomeric β-**lactose** at room temperature, from which the crystal structure of β-**lactose** could be accurately redetd. Recrystn. expts. of anhydrous **lactose** allowed to prepare N-methylpyrrolidinone and DMSO solvates of α- **lactose**.

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:189509 CAPLUS
TITLE: The dissolution of **single crystals** of paracetamol and **lactose** hydrate in aqueous solution
AUTHOR(S): Sherwood, John N.
CORPORATE SOURCE: Department of Pure and Applied Chemistry, University of Strathclyde, Glasgow, G1 1XL, UK
SOURCE: Abstracts of Papers, 223rd ACS National Meeting, Orlando, FL, United States, April 7-11, 2002 (2002), IEC-236. American Chemical Society: Washington, D. C.
CODEN: 69CKQP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB The dissoln. anisotropy of crystals of paracetamol grown in the presence and absence of the molecularly similar additive, p-acetoxyacetanilide (PAA) and of *-**lactose** monohydrate (*LM) grown from solns. containing the normal contaminant *-**lactose**, which contaminates the ( ) faces, were studied under controlled conditions in undersatd. aqueous solns. using a **single crystal** dissoln. method. Dissoln. rates were determined for all the major habit faces by measuring their movement (regression) with time in a flow cell using a microscope. The rates of dissoln. of particular faces of pure paracetamol were distinctly different in crystals of different morphol. grown at different supersaturations. The dissoln. rates of {001} and {110} faces of paracetamol crystals grown in the presence of PAA (6.02% weight/weight in solution) are higher than those of pure paracetamol. For *LM, the dissoln. rates were found to be anisotropic and to vary considerably with undersatn. At low undersaturations (0-2%) the order of dissoln. rate was ( )>(100)>( )=(110)>(010). This changed with increasing undersatn. (>5%) to ( )>>(100)>( )>(110)>(010). The results for both materials correlate with the distribution of strain in the crystal and support the concept that integral strain increases the solubility and hence the dissoln. rate of the material. The mechanism of the dissoln. process at most crystal faces was defined using optical microscopy and X-ray topog. At all undersaturations above 1% the dissoln. studies yielded well developed, structurally oriented, etch pits on all faces.This etch-pitting was considerably more widespread than the dislocation content of the sector and probably reflects a 2-dimensional nucleation process rather than a dislocation-controlled mechanism. Under these conditions, which better reflect the normal dissoln. processes of materials, bulk lattice strain plays a more significant role than dislocations in defining the dissoln. rate. The results confirm that the normally expected variations in quality of crystals induced by variations in processing conditions can cause wide variations in dissoln. characteristics.

L3 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:672867 CAPLUS
DOCUMENT NUMBER: 135:340673
TITLE: α- **Lactose** monohydrate **single crystals** as hosts for matrix isolation of guest biopolymers
AUTHOR(S): Wang, H. C.; Kurimoto, M.; Kahr, B.; Chmielewski, J.
CORPORATE SOURCE: Department of Chemistry, Purdue University, West Lafayette, IN, 47907-1393, USA
SOURCE: Bioorganic & Medicinal Chemistry (2001), 9(9), 2279-2283
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Single crystals** of α- **lactose** monohydrate show a remarkable tendency to include biopolymers, such as proteins, oligonucleotides and dextrans, within the growing lattice. Glycosylation increased the amount of protein contained within the crystals. The guest mols. were found only within the (010) growth sector of the hatchet shaped crystals, thereby binding preferentially to one of the seven developed crystal faces. The topog. features of the active surface are described.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:642070 CAPLUS
TITLE: Solution and solid state polymerization of 2,3-dicyano-5,7-dimethyl-6H-1,4-diazepine
AUTHOR(S): Kim, Ik-Bum; Foxman, Bruce M.; Njus, Jeffrey; Sandman, Daniel J.
CORPORATE SOURCE: Department of Chemistry, University of Massachusetts Lowell, Lowell, MA, 01854, USA
SOURCE: Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001 (2001), POLY-200. American Chemical Society: Washington, D. C.
CODEN: 69BUZP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB We describe the polymerization of the dicyanoalkene, 2,3-dicyano-5,7-dimethyl-6H-1,4-diazepine(1), to high mol. weight conjugated polymers via two different new chemical methodologies that are nonpolluting, namely the use of unmodified carbohydrate reagents in solution and the use of solid state reactions that use no solvent. The polymers that we prepare as described herein have not been previously prepared The polymerization of 1 has been investigated in solution and solid state, and conjugated polymers were prepared in both cases. Solution polymerization proceeds using unmodified sugar reagents, such as glucose, **lactose**, and sucrose, in alkaline methanol solution The solid state polymerization is thermally carried out at 150°C. A monoclinic unit cell was determined from the crystal structure of **single crystal** monomer (1) by X-ray crystallog. Structures are proposed for the polymer based on 1H and 13C NMR, IR, and UV-visible spectra and other techniques. Since the polymers from 1 are not sufficiently soluble to obtain 13C spectra in solution, these spectra were obtained using cross polarization and magic angle spinning (CPMAS) techniques. Their properties are under investigation.

L3 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:411418 CAPLUS
DOCUMENT NUMBER: 135:43027
TITLE: Intrasectoral zoning of proteins and nucleotides in simple crystalline hosts
AUTHOR(S): Kurimoto, Miki; Bastin, Loyd D.; Fredrickson, Daniel; Gustafson, Pamela N.; Jang, Sei-Hum; Kaminsky, Werner; Lovell, Scott; Mitchell, Christine A.; Chmielewski, Jean; Kahr, Bart
CORPORATE SOURCE: Department of Chemistry, University of Washington, Seattle, WA, 98195-1700, USA
SOURCE: Materials Research Society Symposium Proceedings (2001), 620(Morphology and Dynamics of Crystal Surfaces in Complex Molecular Systems), M9.8.1-M9.8.10
CODEN: MRSPDH; ISSN: 0272-9172
PUBLISHER: Materials Research Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Oriented gases of biopolymers in simple, **single crystal** hosts might be used to measure anisotropic mol. properties of analytes that could not otherwise be crystallized Here we show two types of crystals as examples of the **single crystal** matrix isolation of biopolymers: green fluorescent protein in α- **lactose** monohydrate as a model system for studying the kinetic stabilization of biopharmaceuticals, and adenosine phosphates in potassium dihydrogen phosphate, a first step in the matrix isolation of oligonucleotides. In each case, the hosts undergo compositional zoning - both intersectoral and intrasectoral - during growth from solution Intrasectoral zoning is evident by the selective luminescence of adjacent vicinal slopes of growth active hillocks. Nucleotides furthermore distinguish between symmetry related growth sectors enantioselectively.

REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:422851 CAPLUS
DOCUMENT NUMBER: 131:225027
TITLE: Kinetic Stabilization of Biopolymers in **Single -Crystal** Hosts: Green Fluorescent Protein in α- **Lactose** Monohydrate
AUTHOR(S): Kurimoto, Miki; Subramony, Paramjeet; Gurney, Richard W.; Lovell, Scott; Chmielewski, Jean; Kahr, Bart
CORPORATE SOURCE: Department of Chemistry, University of Washington, Seattle, WA, 98195-1700, USA
SOURCE: Journal of the American Chemical Society (1999), 121(29), 6952-6953
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors demonstrate that green fluorescent protein (GFP) can be oriented and stabilized in its native conformation in **single crystals** of α- **lactose** monohydrate, and subsequently release into solution in its native state by dissoln. of the matrix.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:770477 CAPLUS
DOCUMENT NUMBER: 130:158331
TITLE: The thermal expansion of pharmaceutical solids
AUTHOR(S): Hancock, B. C.; Rowe, R. C.
CORPORATE SOURCE: Merck Frosst Canada Inc., Kirkland, QC, H9H 3L1, Can.
SOURCE: S.T.P. Pharma Sciences (1998), 8(4), 213-220
CODEN: STSSE5; ISSN: 1157-1489
PUBLISHER: Editions de Sante
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The thermal expansion of over a dozen pharmaceutical solids was examined by using several different exptl. techniques. Samples were presented either as **single crystals**, powders, granules, compressed tablets or amorphous specimens, and data were obtained by using mol. level measurement techniques (e.g. variable-temperature **single-crystal** x-ray diffraction) and macroscopic/particulate measurements (e.g., immersion dilatometry, thermomech. anal.). The advantages and limitations of each technique for characterizing pharmaceutical solids are discussed, and a summary of the currently available data that can be used to describe the expansion or contraction behavior of pharmaceutical solids upon variable temperature processing is provided.
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:511993 CAPLUS
DOCUMENT NUMBER: 127:123220
TITLE: Microcrystalline sugars or sugar alcohols and their preparation
INVENTOR(S): Maitre, Jean-Paul; Mentech, Julio; Reynaud, Sylvie; Wong, Emile
PATENT ASSIGNEE(S): Eridania Beghin-Say, Fr.
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9721838	A1	19970619	WO 1996-FR1931	19961204
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
FR 2742164	A1	19970613	FR 1995-14643	19951211
FR 2742164	B1	19990129		

CA 2238826	AA	19970619	CA 1996-2238826	19961204
AU 9711005	A1	19970703	AU 1997-11005	19961204
AU 707137	B2	19990701		
EP 870064	A1	19981014	EP 1996-941694	19961204
EP 870064	B1	20020918		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 9611990	A	19990330	BR 1996-11990	19961204
JP 2000501609	T2	20000215	JP 1997-521778	19961204
AT 224460	E	20021015	AT 1996-941694	19961204
PT 870064	T	20030228	PT 1996-941694	19961204
ES 2181925	T3	20030301	ES 1996-941694	19961204
US 6015466	A	20000118	US 1998-77748	19980721
PRIORITY APPLN. INFO.:			FR 1995-14643 A	19951211
			WO 1996-FR1931 W	19961204

AB The crystals are essentially uniform unbroken **single crystals** with a regular geometrical shape and the particle-size distribution is Gaussian with a median between 20 and 220 μm, a coefficient of variation of 20-50%, and a homogeneity index of 1-5. A sugar syrup with 60-97% solids content is evaporated at 100-300 millibars with stirring to achieve a supersatn. coefficient of 1.1-1.3, then subjected to shock to cause precipitation without evaporation for 5-20 min, after which the evaporation is resumed at 70-100°/.apprx.200 millibars until the moisture content drops to <1%.

L3 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:147290 CAPLUS
DOCUMENT NUMBER: 124:230379
TITLE: **Lactose** solubility and crystal growth as affected by mineral impurities
AUTHOR(S): Bhagargava, Arun; Jelen, Pavel
CORPORATE SOURCE: Dept. of Agricutlural, Food & Nutritional Science, Univ. of Alberta, Edmonton, AB, T6G 2P5, Can.
SOURCE: Journal of Food Science (1996), 61(1), 180-4
CODEN: JFDSAZ; ISSN: 0022-1147
PUBLISHER: Institute of Food Technologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Single crystal** growth method was applied to determine **lactose** solubility, growth rate and morphol. of **lactose** crystals grown in model **lactose** solns. containing various salts and in whey ultrafiltration (UF) permeate solns. Salts either increased or decreased the **lactose** crystal growth rate, due to effects on **lactose** solubility Addition of LiCl led to a maximum increase in growth rate and a maximum decrease in **lactose** solubility, while K2HPO4 had opposite effects. Growth rates of individual **lactose** crystals in whey UF permeate solns. were lower and **lactose** solubility higher than those in pure **lactose** solns.

L3 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:31099 CAPLUS
DOCUMENT NUMBER: 116:31099
TITLE: Influence of size factor on chain processes in irradiated crystalline carbohydrates.
AUTHOR(S): Kavetskii, V. G.; Yudin, I. V.
CORPORATE SOURCE: Inst. Fiz. Khim., USSR
SOURCE: Khimiya Vysokikh Energii (1991), 25(5), 476-7
CODEN: KHVKAO; ISSN: 0023-1193
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Radiation-chemical yield of products formation in crystals of saccharose, xylose, **lactose**, and arabinose depended on the mean crystal diameter (d). In the near-surface layer (with high defect d.) the radiation-induced processes differed from these in the deeper crystal regions. In arabinose and **lactose** powders (mean crystal size d < 0.1 mm) radiation-chemical yield of hydroxyacids was 2 times lower than that in **single crystals** (d = 71 mm). Formation of carbonyl compds. in **single crystals** of arabinose, xylose, and saccharose was 1.5-3 times more effective than in powders.

L3 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:639683 CAPLUS
DOCUMENT NUMBER: 115:239683
TITLE: Acoustic emission during the deformation of α-**lactose** monohydrate and anhydrous α-**lactose** monocrystals
AUTHOR(S): Wong, D. Y. T.; Waring, M. J.; Wright, P.; Aulton, M. E.

CORPORATE SOURCE: Sch. Health Life Sci., Leicester Polytech., Leicester, LE1 9BH, UK
SOURCE: Journal of Pharmacy and Pharmacology (1991), 43(9), 659-61
CODEN: JPPMAB; ISSN: 0022-3573
DOCUMENT TYPE: Journal
LANGUAGE: English

AB During the deformation of **single crystals** of α-**lactose** monohydrate and anhydrous α- **lactose** in a crushing strength rig, their acoustic activity was monitored using a portable activity meter. The acoustic parameters measured were the average signal level (ASL), count rates and total acoustic counts. Both types of **lactose**, even though deformed by fragmentation, differed fundamentally in the degree and nature of this fragmentation. Close correlation was observed between the ASL, count rate profiles and the force-displacement profiles. The monohydrate form is acoustically more active than the anhydrous form during deformation. Small internal fractures which were neither visually observed nor detected in the force-displacement profiles (in particular the anhydrous α- **lactose**) were detected by monitoring the acoustic signals during the deformation of these crystals. This work illustrates the potential using the acoustic emission technique as an aid in the assessment of the deformation characteristics of pharmaceutical materials during **single crystals** compression studies.

L3 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:499125 CAPLUS
DOCUMENT NUMBER: 115:99125
TITLE: Elucidation of the compressive deformation behavior of α- **lactose** monohydrate and anhydrous α- **lactose single crystals** by mechanical strength and acoustic emission analyses
AUTHOR(S): Wong, D. Y. T.; Waring, M. J.; Wright, P.; Aulton, M. E.
CORPORATE SOURCE: Sch. Health Life Sci., Leicester Polytech., Leicester, LE1 9BH, UK
SOURCE: International Journal of Pharmaceutics (1991), 72(3), 233-41
CODEN: IJPHDE; ISSN: 0378-5173
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Compressive deformation studies on single α- **lactose** crystals by mech. strength and acoustic emission analyses revealed a distinct difference in the deformation behavior of α- **lactose** monohydrate and anhydrous α- **lactose** monohydrate monocrystals exhibited greater mech. strength when compared with the anhydrous α-**lactose** crystals. The acoustic emission data show that the fragmentation process of the monohydrate crystals is acoustically more active and energetic. Amplitude distribution anal. of the acoustic signals further confirmed that the nature of fragmentation during the deformation of the two types of **lactose** was different. This is attributed to fundamental differences in the internal crystal structure of the two **lactose** types. Mech. strength and acoustic emission analyses provide an insight into the fundamental deformation characteristics of these 2 types of **lactose**.

L3 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:415435 CAPLUS
DOCUMENT NUMBER: 115:15435
TITLE: The relationship between Young's modulus of elasticity of organic solids and their molecular structure
AUTHOR(S): Roberts, R. J.; Rowe, R. C.; York, P.
CORPORATE SOURCE: ICI Pharm., Macclesfield/Cheshire, SK10 2TG, UK
SOURCE: Powder Technology (1991), 65(1-3), 139-46
CODEN: POTEBX; ISSN: 0032-5910
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Young's modulus of elasticity of organic drugs and excipients as determined by 3-point beam bending can be predicted from cohesive energy d. However, the moduli are lower than expected from theory due to specimen effects or to temperature differences between the theor. treatment and measurements made at room temperature (i.e., compacted beams, 3-point beam bending). When exptl. determined **single crystal** elastic consts. are used to calculate Young's modulus for a number of mol. solids, agreement between experiment and theory is improved. For aspirin, there was good agreement between the lattice dynamic approach, the theor. equation based on cohesive energy d. and exptl. measurements based on the flexure of compacted beams.

L3 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:127336 CAPLUS
DOCUMENT NUMBER: 112:127336
TITLE: **Lactose** and "tris" (tris(hydroxymethyl)aminomethane) lyoluminescence dosimetry systems and ESR correlation studies
AUTHOR(S): Oommen, I. K.; Nambi, K. S. V.; Sengupta, S.; Rao, T. K. Gundu; Ravikumar, M.
CORPORATE SOURCE: Health Phys. Div., Bhabha At. Res. Cent., Bombay, 400 085, India
SOURCE: Applied Radiation and Isotopes (1989), 40(10-12), 879-83
CODEN: ARISEF; ISSN: 0883-2889
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lyoluminescence (LL) dosimeters have been developed using **lactose** monohydrate (disaccharide) and tris(hydroxymethyl)aminomethane ("Tris") systems and attempts have been made to understand the LL mechanism through ESR correlation studies. Tris LL dosimeter has a γ-ray sensitivity with a linear response in the absorbed-dose range 0.05-200 Gy (5-2 + 104 rad), while the **lactose** response extends to a higher range from 1 to 104 Gy (102-106 rad). The LL output of **lactose** and Tris did not show any appreciable decay for a period of 6 mo after irradiation ESR measurements show that free-radical concentration in both the systems increases with γ-ray dose in the range 102-105 Gy. The min. dose required to measure the radiation-induced ESR signal for Tris is .apprx.500 Gy, the dose at which the LL output sats., while **lactose** shows a radiation-induced ESR signal right at the min. dose where LL could be detected. The estimated value of free-radical concentration for **lactose** was 1014-1017 spins/g in the dose range 102-105 Gy, while for Tris it is 1016-1017 spins/g in the dose range 103-105 Gy. ESR spectral features of the irradiated Tris show the presence of 2 distinct radical species and one of these species is found to decay with time. This species has been assigned to a R-CHOH radical on the basis of a detailed **single-crystal** ESR study. The principal g factors of the radicals are gx = 2.0021, gy = 2.0041, gz = 2.0024 and the principal hyperfine couplings are Ax = 15.8 G, Ay = 23.4 G and Az = 13.8 G. The estimated spin d. on the radical C atom is 0.7. Addnl., **lactose** did not show any appreciable ESR decay for a period of 3 mo after irradiation, while, for Tris, one of the radicals showed a decay of 45% for the same period.

L3 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:636844 CAPLUS
DOCUMENT NUMBER: 109:236844
TITLE: The deformation of alpha-**lactose** monohydrate and anhydrous alha-**lactose** monocrystals
AUTHOR(S): Wong, D. Y. T.; Wright, P.; Aulton, M. E.
CORPORATE SOURCE: Sch. Pharm., Leicester Polytech., Leicester, LE1 9BH, UK
SOURCE: Drug Development and Industrial Pharmacy (1988), 14(15-17), 2109-26
CODEN: DDIPD8; ISSN: 0363-9045
DOCUMENT TYPE: Journal
LANGUAGE: English
AB α- **Lactose** monohydrate monocrystals were grown from supersatd. solution in agar gel and the anhydrous form was prepared by refluxing the monohydrate crystals in specially-dried MeOH. The compression characteristics of the **single crystals** were assessed in 2 ways-by indentation testing and by the use of a novel **single -crystal** compression ring.

L3 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1982:419299 CAPLUS
DOCUMENT NUMBER: 97:19299
TITLE: Escherichia coli lac repressor is elongated with its operator DNA-binding domains located at both ends
AUTHOR(S): McKay, David B.; Pickover, Clifford A.; Steitz, Thomas A.
CORPORATE SOURCE: Dep. Mol. Biophys. Biochem., Yale Univ., New Haven, CT, 06511, USA
SOURCE: Journal of Molecular Biology (1982), 156(1), 175-83
CODEN: JMOBAK; ISSN: 0022-2836
DOCUMENT TYPE: Journal
LANGUAGE: English
AB From small-angle x-ray scattering expts. on solns. of E. coli lac repressor and repressor tryptic core, it was concluded that the domains of

repressor that bind to operator DNA lie at the ends of an elongated mol. The addition of the inducer, isopropyl-β-D-thiogalactoside (I), to either repressor or core did not produce a measurable structural change, since the radius of gyration of repressor was 40.3 Å without and 42.2 Å with I; the core radius of gyration was 35.4 Å without ligand and 36.3 Å with I. From data from **single crystals** of repressor and core, the measured radii of gyration were shown to be consistent with a core (or repressor) mol. of dimensional anisotropy 1:(1.5-2.0):(3.0-4.0). The 5 Å difference in radius of gyration between native and core repressor was interpreted to mean that the amino terminal 59 residues (headpieces) lie at the ends of an elongated repressor mol. This structure implies that the repressor may have DNA binding sites, consisting of 2 adjacent headpieces, on each end of the mol., and this binds to the DNA with its long axis perpendicular to the DNA.

L3 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1963:466845 CAPLUS
DOCUMENT NUMBER: 59:66845
ORIGINAL REFERENCE NO.: 59:12328h,12329a-b
TITLE: Electron spin resonance (E.S.R.) studies of irradiated **single crystals** of sugars
AUTHOR(S): Ueda, Hisashi
CORPORATE SOURCE: Duke Univ., Durham, NC
SOURCE: Journal of Physical Chemistry (1963), 67(10), 2185-90
CODEN: JPCHAX; ISSN: 0022-3654
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB **Single crystals** of **lactose** hydrate, sucrose, methyl-D-glucoside, glucoronolac-tone, D-glucosamine-HCl, and diacetone sorbose were irradiated at 77°K. and their E.S.R. spectra were observed immediately after irradiation or after annealing at 193 °K. These sugars also were irradiated at room temperature, and their E.S.R. spectra were observed at this temperature The position of the substituted functional group in a substituted sugar mol. is more accessible to radiation damage than other positions in the mol. Therefore, the positions are selectively damaged by irradiation. For this reason, the E.S.R. spectra of irradiated **single crystals** of sugar derivs. differ greatly from those found in the unsubstituted parent sugars. The free radicals formed in sugars by irradiation at 77°K. are transformed by subsequent annealing. These transformation processes can be explained by a change in the configuration of the radical species in most instances. However, there are a few cases where the transformation includes migration of the free radical site.

L3 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1961:68473 CAPLUS
DOCUMENT NUMBER: 55:68473
ORIGINAL REFERENCE NO.: 55:12984g-i
TITLE: Crystallization of new piezoelectric substances
AUTHOR(S): Chumakov, A. A.; Koptsik, V. A.
SOURCE: Kristallografiya (1959), 4, 235-8
CODEN: KRISAJ; ISSN: 0023-4761
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Large **single crystals** of the following piezoelec. substances could be grown from solvent: acridine, NH4 Li tartrate monohydrate, (NH4)2C2O4.H2O, NH4 tartrate, Na 2-anthraquinonesulfonate, arabinose, L-asparagine, aspartic acid, β-acetylphenylhydrazine, acetoxime, Ba(NO2)2.H2O, BaCl2.2H2O, benzophenone, hippuric acid, glucose, NaCl.H2O, α-glutamic acid-HCl, guanidinium acetate, dimethylglyoxime, dichloroquinone chloroamide, dinitrosopiperidine, CdBr2.4H2O, K Li tartrate monohydrate, K H phthalate, **lactose** monohydrate LiO2CH.H2O, MgSO4.7H2O, Mn(OAc)2.4H2O, Na naphthionate tetrahydrate NiSO4.7H2O, Na H tartrate monohydrate, acetophenone oxime, 8-quinolinol, pentaerythritol, L-rhamnose, Sr(NO3)2.4H2O, sulfanilic acid, terpin hydrate, DL-threonine, bis(p-dimethylaminophenyl)methane, urotropine, phthalic acid, formaldehyde sodium bisulfite, quinine-HCl, ZnSO4.7H2O, cystine-HCl, succinic anhydride. Solvents used were water (pure or with additives), EtOH, Me2CO, dichloroethane, C6H6, CHCl3, CCl4, and mixts. of these compds.

L3 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1956:17920 CAPLUS
DOCUMENT NUMBER: 50:17920
ORIGINAL REFERENCE NO.: 50:3717g-h
TITLE: Ammonium chloride **single crystals**
INVENTOR(S): Misumi, Shozo; Ishikawa, Yoshio; Tanaka, Seiichi

PATENT ASSIGNEE(S): Ube Soda Industries Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 29006870		19541023	JP	

AB Saturated NH4Cl solution (I) (1 l. at 40°) is treated with (NH4)2CO3 20, NaHCO3 10, glucose, **lactose**, or sucrose 2, or soluble starch 1 g. and cooled at 10°/hr. to give crystals of NH4Cl 5.4-6.2 times larger than usual.

L12 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:94115 CAPLUS
DOCUMENT NUMBER: 132:308558
TITLE: Noncovalent association phenomena of 2,5-dihydroxybenzoic acid with cyclic and linear oligosaccharides. A matrix-assisted laser desorption/ionization time-of-flight mass spectrometric and X-ray crystallographic study
AUTHOR(S): Mele, A.; Malpezzi, L.
CORPORATE SOURCE: Dipartimento di Chimica, Politecnico and C.N.R.-Centro Studi sulle Sostanze Organiche Naturali, Milan, Italy
SOURCE: Journal of the American Society for Mass Spectrometry (2000), 11(3), 228-236
CODEN: JAMSEF; ISSN: 1044-0305
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB D-Glucose and 19 glucose derivs. were investigated by pos. and neg. ion matrix assisted laser desorption/ionization time-of-flight mass spectrometry using 2,5-dihydroxybenzoic acid (DHB) as the matrix. The set of substrates includes oligomers of amylose and cellulose, native α-, β-, and γ-cyclodextrin, and chemical modified β- and γ-cyclodextrins. These analytes were chosen to modulate mol. weight, polarity, and capability of establishing noncovalent interactions with guest mols. In the neg.-ion mode, the DHB matrix gave rise to charged multicomponent adducts of type [M +DHB - H]- (M = oligosaccharide) selectively for those analytes matching the following conditions: (i) underivatized chemical structure and (ii) number of glucose units ≥4. In the pos.-ion polarity, only some amylose and cellulose derivs. and methylated β-cyclodextrins provided small amount of cationized adducts with the matrix of type [M +DHB +X]+ (X = Na or K), along with ubiquitous [M +X]+ ions. The results are discussed by taking into account analyte-matrix association phenomena, such as hydrogen bond and **inclusion** phenomena, as a function of the mol. structure of the analyte. The conclusions derived by mass spectrometric data are compared with the X-ray diffraction data obtained on a **single crystal** of the 1:1 α-cyclodextrin - DHB noncovalent adduct.
REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:479290 CAPLUS
DOCUMENT NUMBER: 131:136969
TITLE: Fructo-oligosaccharides and **sucrose** crystal growth morphology. Part 2. Verification of nonsucrose absorption through chromatographic analysis and x-ray diffractometry
AUTHOR(S): Vaccari, G.; Sgualdino, G.; Tamburini, E.; Lodi, G.; Aquilano, D.; Mantovani, G.
CORPORATE SOURCE: Dip. Chimica, Univ. Ferrara, Ferrara, I-44100, Italy
SOURCE: Zuckerindustrie (Berlin) (1999), 124(7), 536-541
CODEN: ZUCKDI; ISSN: 0344-8657
PUBLISHER: Verlag Dr. Albert Bartens
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To clarifying how the components of the com. mixture Actilight of fructo-oligosaccharides 1-kestose (GF2), nystose (GF3), and fructosyl-nystose (GF4), affected the growth morphol. of the **sucrose** crystals, their presence and distribution inside the crystals was investigated. Both whole **single crystals** and samples cut from their right and left poles were analyzed using planar chromatog. techniques. GF2 and GF3 were found together with evidence of another dominant unknown oligosaccharide throughout the whole crystals, and these oligosaccharides were more concentrated in the right poles. This oligosaccharide was shown to be neo-kestose by NMR and GC-MS analyses. The high concentration of neo-kestose with respect to other oligosaccharides inside the **sucrose** crystals supports the preferential **incorporation** of neo-kestose into the **sucrose** crystal lattice. X-ray powder diffractograms of **sucrose** crystals grown in the presence of 2 different concns. of the fructo-oligosaccharides also confirmed the **incorporation** of some of its components into the crystal lattice. Neo-kestose is the most efficient habit-modifier among the fructo-oligosaccharides components.
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:624009 CAPLUS
DOCUMENT NUMBER: 129:241887
TITLE: Specific magnetosomes and method for their production and use
INVENTOR(S): Baeuerlein, Edmund; Schueler, Dirk; Reszka, Regina; Paeuser, Sabine
PATENT ASSIGNEE(S): Max-Delbrueck-Centrum fuer Molekulare Medizin, Germany; Max-Planck-Gesellschaft zur Foerderung der Wissenschaften E.V. Berlin
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9840049	A2	19980917	WO 1998-DE668	19980306
WO 9840049	A3	19990107		
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19716732	A1	19980917	DE 1997-19716732	19970414
DE 19716732	C2	19990325		
EP 971692	A2	20000119	EP 1998-919046	19980306
EP 971692	B1	20030305		
R: AT, BE, CH, DK, ES, FR, GB, IT, LI, NL, SE, FI				
JP 2001527534	T2	20011225	JP 1998-539072	19980306
AT 233546	E	20030315	AT 1998-919046	19980306

PRIORITY APPLN. INFO.: DE 1997-19709322 A 19970307
DE 1997-19716732 A 19970414
WO 1998-DE668 W 19980306

AB Specific magnetosomes consisting of a magnetic Fe3O4 **single crystal** with diameter ≤45 nm surrounded by a phospholipid membrane, and magnetoliposomes obtained from such magnetosomes by liposomal encapsulation, are useful as NMR contrast agents, in purging (removal of pathogenic cells), as diagnostic agents for tumors or in lymphog., for inflammatory processes, for multiple sclerosis, Alzheimer's disease, or Parkinson's disease, and as therapeutic agents. These magnetosomes are obtained from Magnetospirillum gryphiswaldense in cubooctahedral form and are sufficiently small to minimize the danger of embolism. They may be coupled to specific antibodies, therapeutic agents, or radionuclides, and can form cationic complexes with plasmids, antisense oligonucleotides, ribozymes, or other genetic material suitable for gene transfer. Thus, M. gryphiswaldense was cultured in a liquid medium containing KH2PO4 0.3, NaOAc 1, soybean peptone 1, NH4Cl 0.1, and yeast extract 0.1 g/L at 30° and pH 6.9 with aeration such that the O2 concentration in the medium was ≤2% of saturation; when the optical d. at 400 nm reached 0.55, FeSO4 was added to a concentration of 100 μM along with 70 g NaOAc/L. After 30 h the cells were centrifuged, washed, passed through a French press, centrifuged at low speed, and the magnetosomes were separated on a magnetic column, washed, and purified by **sucrose** gradient d. centrifugation. These magnetosomes were injected i.v. into rats (35.81 μmol Fe/kg body weight) as a contrast agent for detection of implanted liver adenocarcinomas by NMR tomog.

L12 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1950:48218 CAPLUS
DOCUMENT NUMBER: 44:48218
ORIGINAL REFERENCE NO.: 44:9172i,9173a
TITLE: Inhomogeneities in **sucrose** crystals
AUTHOR(S): Sheftal, N. N.
SOURCE: Chem. Zentr. (Russian Zone Ed.) (1948), 1948, I, 819
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. C.A. 37, 548.7. In expts. on the growth of large **single crystals** the various types of inhomogeneity were studied. They are classified as those which are accidental (due to foreign **inclusions**, temperature changes, etc.) and those due to the process of growth. Cracks due to temperature changes can be prevented if the crystals are removed from the warm mother liquor quickly and placed immediately in petroleum of the same temperature and then allowed to cool in the petroleum. Flaws due to growth processes (cf. preceding abstract) are discussed.

L12 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1950:48217 CAPLUS
DOCUMENT NUMBER: 44:48217
ORIGINAL REFERENCE NO.: 44:9172i,9173a

TITLE: Inhomogeneities in **sucrose** crystals
AUTHOR(S): Sheftal, N. N.
SOURCE: Chem. Zentr. (Russian Zone Ed.) (1948), 1948, I, 71-80
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. C.A. 37, 548.7. In expts. on the growth of large **single crystals** the various types of inhomogeneity were studied. They are classified as those which are accidental (due to foreign **inclusions**, temperature changes, etc.) and those due to the process of growth. Cracks due to temperature changes can be prevented if the crystals are removed from the warm mother liquor quickly and placed immediately in petroleum of the same temperature and then allowed to cool in the petroleum. Flaws due to growth processes (cf. preceding abstract) are discussed.

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1975:74746 CAPLUS
DOCUMENT NUMBER: 82:74746
TITLE: Distribution of **nonsucrose** substances in **sucrose** crystals
AUTHOR(S): Singh, Sudhir; Delavier, Hans J.
CORPORATE SOURCE: Inst. Zuckerind., Berlin, Fed. Rep. Ger.
SOURCE: Zeitschrift fuer die Zuckerindustrie (1974), 24(12), 639-51
CODEN: ZZUCAE; ISSN: 0044-2623
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The distribution of non-**sucrose** substances (I) (ashes, K [7440-09-7], Na [7440-23-5], and Ca [7440-70-2]) in bulk sugar and **single crystals** was examined; a third degree equation was described to relate I content of various fractions to grain size. No math. relation was found for the distribution of I in bulk sugar consisting only of conglomerates. The non-**sucrose** mass of a crystal decreased with decreasing grain size. The crystal contained less non-**sucrose** from the outside to the inside.

L17 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:247239 CAPLUS
DOCUMENT NUMBER: 140:107613
TITLE: Dyeing crystals to dyeing tissues: congo red in **anisotropic** media
AUTHOR(S): Kurimoto, Miki; Mueller, Beat; Kaminsky, Werner; Kahr, Bart; Jin, Lee-Way
CORPORATE SOURCE: and Department of Pathology, Department of Chemistry, University of Washington, Seattle, WA, 98195-1700, USA
SOURCE: Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (2002), 389, 1-9
CODEN: MCLCE9; ISSN: 1058-725X
PUBLISHER: Taylor & Francis Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In the past, we have studied the process of dyeing crystals through measurements of linear optical anisotropies (e.g., linear dichroism and linear birefringence). Techniques for analyzing the optical properties of dyed crystals are readily translated to stained crystalline tissues, countless examples of which have been described by chemical histologists. Moreover, questions pertaining to mechanisms of non-covalent association are comparable whether the structured host is a **single crystal** or crystalline tissue. Here, the azo dye, Congo red, in two types of anisotropic media, **sucrose single crystals** and fibrous, proteinaceous amyloid plaques, is described. Optical micrographs of amyloid from the brains of deceased Alzheimer's Disease patients made with a newly developed imaging system reveal previously unrecognized features. As formation of ordered amyloid plaques from their relatively small peptides may well be considered a pathol. biocrystn. process, a clear understanding of the deposition mechanism may lead to strategies for crystallization inhibition.
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L Number	Hits	Search Text	DB	Time stamp
1	601788	crystal$9	EPO; JPO; DERWENT	2004/04/30 13:39
2	27251	lactose sucrose trehalose maltose disaccharide	EPO; JPO; DERWENT	2004/04/30 13:39
3	4378220	includ$4 inclusion incorpor$6	EPO; JPO; DERWENT	2004/04/30 13:40
4	385	crystal$9 and (lactose sucrose trehalose maltose disaccharide) and (includ$4 inclusion incorpor$6)	EPO; JPO; DERWENT	2004/04/30 13:40

L Number	Hits	Search Text	DB	Time stamp
1	581520	crystal$9	USPAT; US-PGPUB	2004/04/30 12:12
2	3416106	includ$4 inclusion incorporat$4	USPAT; US-PGPUB	2004/04/30 12:12
3	219357	crystal$9 same (includ$4 inclusion incorporat$4)	USPAT; US-PGPUB	2004/04/30 12:13
4	43110	single adj crystal	USPAT; US-PGPUB	2004/04/30 12:13
5	23428	(crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)	USPAT; US-PGPUB	2004/04/30 12:13
6	90999	lactose	USPAT; US-PGPUB	2004/04/30 12:13
7	1	(single adj crystal) same lactose	USPAT; US-PGPUB	2004/04/30 12:14
8	386	((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and lactose	USPAT; US-PGPUB	2004/04/30 12:14
9	872632	@ad>=20000612	USPAT; US-PGPUB	2004/04/30 12:14
10	145	(((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and lactose) not @ad>=20000612	USPAT; US-PGPUB	2004/04/30 12:57
11	106018	sucrose trehalose maltose disaccharide	USPAT; US-PGPUB	2004/04/30 12:58
12	429	((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and (sucrose trehalose maltose disaccharide)	USPAT; US-PGPUB	2004/04/30 12:58
13	137	(((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and (sucrose trehalose maltose disaccharide)) not (((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and lactose)	USPAT; US-PGPUB	2004/04/30 12:58
14	67	((((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and (sucrose trehalose maltose disaccharide)) not (((crystal$9 same (includ$4 inclusion incorporat$4)) and (single adj crystal)) and lactose)) not @ad>=20000612	USPAT; US-PGPUB	2004/04/30 12:58